

Mint of the United States at Philadelphia,

MELTING AND REFINING DEPARTMENT,

Philadelphia, 28th August, 1883.

Dear Sir

In answer to your request, received through Mr Cowperthwaite, I respectfully state, that all the skimmings of all the melts of bullion in one day are gathered at the close of each day, and, with the floor-sweepings of that day, also collected at its close, — are put into one of the melting pots, and left over night to collect into a King. The residuary coal of the ash pits is also burned off in the same pot through the night. The whole residue of the day's meltings are thus resolved the next morning into a metallic king, slag, cinder and ash. But the three last contain metallic grains, which are to be rapidly extracted, and added to the previous day's King, so as to be melted into one bar, the weight and assay of which will determine

Mint of the United States at Philadelphia,

MELTING AND REFINING DEPARTMENT,

2

Philadelphia, _____, 188—

with considerable nicety the apparent loss of the one day's melting in all the 6 @ 9 furnaces used for silver melting.

Extraction of grain-residues from the slag, cinder, and ash. These residues are crushed, not ground, under a pair of cast-iron chasers, 5 @ 6 ft. apart, so as to crush without friction, and when sufficiently ground, are passed through sieve N^o 4 (meshes to the inch). What passes through N^o 4 is again ground and passed through sieve N^o 8, and after one more grinding, is passed through N^o 20 sieve. What passed through 20 is washed in a stream of water on a dish-like hopper, which retains nearly all the remaining particles of metal, and lets the finer matter float off with the water. All the grains on 4, 8 and 20 sieves, and on the hopper (after drying) are melted

Mint of the United States at Philadelphia,

MELTING AND REFINING DEPARTMENT,

3

Philadelphia, _____, 188—

ted into the bar, as above stated. (Preceding A.)

The fine matter, floated off, passes through an iron vessel, in which the heavier and coarser powder settles, and then passes through two or 3 settling vats into a well, where the whole balance of fine matter collects.

The preceding heavier powder; containing but little bullion, is melted, when convenient, to form a monthly bar.

The fine matter from the settling vats is dried in an iron pan directly over the fire, and constitutes the Sweep. When dried, it is sifted several times, to render it uniform throughout, & packed into barrels, Samples are drawn from each lot of ten (10) barrels, by a flour-auger, drawing out from bottom to top, and each such lot of mixed samples is separately assayed to determine the value of the Sweep

Mint of the United States at Philadelphia,

MELTING AND REFINING DEPARTMENT,

Philadelphia, _____, 188 ⁴.

for sales.

The average apparent wastage per day, when about 90 000 oz. of silver are melted, is about 30 oz. or $.000\frac{1}{3}$, most of which is in the monthly bar, the assay chips, cut off, and the sweep.

Respectfully yours

J. C. Booth

Col. A. L. Snowden

Suptdt. U. S. Mint.

895

Mint of the United States at Philadelphia,

MELTING AND REFINING DEPARTMENT,

Aug. 28, 1883.

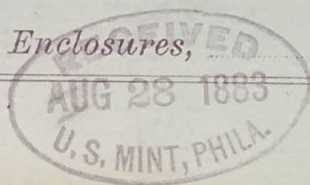
J. B. Booth

Melter and Refiner.

Explaining how
 daily skimmings
 & sweeps are col-
 lected & disposed
 of.

No. of Enclosures,

(16)



[Abstract:] Explaining how daily skimmings & sweeps are collected & disposed of.

Mint of the United States at Philadelphia,
Melting and Refining Department,
Philadelphia,
August 28, 1883

Dear Sir

In answer to your request, received through Mr. Cowperthwaite, I respectfully state, that all the skimmings of all the melts of bullion in one day are gathered at the close of each day, and, with the floor-sweepings of that day, also collected at its close, - are put into one of the melting pots, and left over night to collect into a king. The residuary coal of the ash pits is also burned off in the same pot through the night. The whole residue of the day's meltings are thus resolved the next morning into a metallic king, slag, cinder and ash. But the three last contain metallic grains, which are to be rapidly extracted, and added to the previous day's king, so as to be melted into one bar, the weight and assay of which will determine with considerable nicety the apparent loss of the one day's melting in all the 6 @ 9 furnaces used for silver melting.

Extraction of grain-residues from the slag, cinder, and ash. These residues are crushed, not ground, under a pair of cast-iron chasers, 5 @ 6 ft. apart, so as to crush without friction, and when sufficiently ground, are passed through sieve No. 4 (meshes to the inch). What passes through No. 4 is again ground and passed through sieve No. 8, and after one more grinding, is passed through No. 20 sieve. What passed through 20 is washed in a stream of water on a dish-like hopper, which retains nearly all the remaining particles of metal, and lets the finer matter float off with the water. All the grains on 4, 8 and 20 sieves, and on the hopper (after drying) are melted into the bar, as above stated. (Preceding II.)

The fine matter, floated off, passes through an iron vessel, in which the heavier and coarser powder settles, and then passes through two or 3 settling vats into a well, where the whole balance of fine matter collects.

The preceding heavier powder, containing but little bullion, is melted, when convenient, to form a monthly bar.

The fine matter from the settling vats is dried in an iron pan directly over the fire, and constitutes the sweep. When dried, it is sifted several times, to render it uniform throughout, & packed into barrels, samples are drawn from each lot of ten (10) barrels, by a flour-anger, drawing out from bottom to top, and each such lot of mixed samples is separately assayed to determine the value of the sweep for sale.

The average apparent wastage per day, when about 90000 oz. of silver are melted, is about 30 oz. or .000 1/3, most of which is in the monthly bar, the assay chips, cut off, and the sweep.

NARA RG104, Entry 1, Box 129

Respectfully yours,
Jas. C. Booth

Col. A.L. Snowden
Supt. U.S. Mint.